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State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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August 19, 1999

TO: File

THRU: Daron Haddock, Permit Supervisor

FROM: Michael Suflita, Reclamation Hydrologist

RE: Drainage Control Changes, Canyon Fuel Co., Dugout Mine, ACT/007/039-AM99E, Folder #2, Carbon County, Utah

SUMMARY:

On June 1, 1999 the Division received a request to replace a slotted inlet culvert with a swale in order to reduce maintenance and increase reliability of operation. Also included was the addition of a new culvert to drain the truck turnaround area. On July 26, 1999 updates and revisions to the submittal were received. This TA is a review of both submittals.

OPERATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: R645-301-742

Diversions.

Analysis:

Reference Plate 7-5 Disturbed Area Diversions. In the original, approved design of the disturbed area, culvert DC-6 conveyed the flow of drainage ditch DD-4 under the main road and into the sediment pond. Water flowing down the road was conveyed into DC-6 via a slotted drain inlet across the road. The Applicant feels there would be less maintenance and more reliable operation if a swale in the road, SW-1, replaced the slotted inlet drain. The swale conveys the water into a rip-rap lined ditch to carry the water into the sediment pond. This appears to be an improvement and the design was analyzed. The swale slopes at 2% toward the pond. Although a minimal slope, this should be adequate. There is riprap between the edge of the road and the

culvert inlet and this is appropriate. The design used the 10-year, 24-hour design which is consistent with the Division position paper regarding ditches and culverts draining to a sediment pond.

The Manning coefficients used were appropriate for the asphalt road surface and the riprap. Drainage areas were calculated appropriately and the runoff curve numbers for the pavement (98) and gravel (88) were also appropriate. Slopes were verified as being correct, and the designs appeared to be adequate.

A second part of the amendment was the addition of a new culvert, DC-10, to drain the loop inside the truck turnaround area. This too seems like an improvement and the design was analyzed. The drainage area was correctly shown and the runoff curves were appropriate (88). The culvert pipe was designed at 12 inches diameter (reference Table 7-9) and the design assumes a one foot headwater over the unsubmerged inlet. This appears adequately designed. The design used the 10-year, 24-hour design which is consistent with the Division position paper regarding ditches and culverts draining to a sediment pond

Findings:

The submittal meets minimum regulatory requirements.

RECOMMENDATION

The submittal can be approved in its present form.

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